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SUPERCAR CHALLENGE

It's a fantastic day when the least powerful car in the field has 442 horsepower.

PHOTOGRAPHY BY RICH CHENET AND JEFFREY G. RUSSELL

Our annual tuner-car beat-down, presently called the "Supercar Challenge," has all the earmarks of becoming a tradition at *Car and Driver*. It started in September 2001, when we ran six powerful, highly modified cars through a two-day event that we dubbed the "Supertuner Challenge." It included a day of driving the cars on public roads and a second day at speed-limit-free Michigan International Speedway in Brooklyn, about 40 miles from headquarters in Ann Arbor.

We held the event again in September 2002 but changed the name to the "Supercar Challenge." Sixteen cars competed that time. In September 2003, we made some significant changes. Although the '01 and '02 events were pretty much run-what-you-brung affairs, we invited only four-cylinder cars last year, and instead of hosting them in Michigan, we traveled to Southern California for the "Super-four Challenge."

This year, we're back to the original big-dog format. We extended invitations to a varied group of expensive, super-strong cars. In 2003, when we ran the little guys, the average as-tested price for the four-bangers was about $45,000, and the king of the hill claimed 450 horses. Big difference from the current runoff, where the average as-tested price is more than $130,000. Four of our entrants claimed peak power of 750 or more horses.

Need we say it was a carnival of horsepower and torque? As before, we spent day one driving the cars on public roads and rating drivability on a five-star scale (five being best). The second day was spent at Michigan International Speedway, a 2.0-mile banked oval with an infield road course. There we gave each entrant five runs through a modified autocross course (see map, next page).

All runs were timed by our Racelogic VBOX GPS-based test equipment. Each run included a standing-start blast to 60 mph, elapsed time and speed over a quarter-mile, road-course time, various data points, and overall time—the last determining the finishing order of the cars. Space limitations prevent us from printing every number of every run, but we've posted all the data and more detailed specifications at www.CARandDRIVER.com.

Since we didn't use our usual procedure for testing acceleration time (for example, we did not make runs in two directions), we didn't apply our normal weather correction to the times, so be wary when comparing these results to ones from previous road tests. Judging by the day's weather conditions, we figure the acceleration numbers published here are probably a few 10ths of a second higher than what we'd normally record. And since the test cars represented a range of model years, we used current stock pricing when calculating the cost of each one.

We haven't quite figured out how to handle emissions compliance. Some companies claimed their cars met EPA regulations; other cars, like the Hennessey Venom and Vishnu Evo, ran without catalytic converters, devices that clean exhaust gases but rob horsepower. We didn't test the exhaust gases of each car, so we can't say if any of them met the regulations. But if you live in a state with strict laws like California's, you'll want to make sure your chosen tuner can supply a car that meets the regs. Maybe next year we'll include emissions testing.

This year, we did tweak the rules a bit. As before, the cars were required to run 93-octane gas, and we prohibited the use of nitrous or water injection. We mandated tires that have a minimum tread-wear rating of 140. In previous years, a few competitors who shall remain nameless complained that one winner ran specially made tires that carried the appropriate tread-wear rating molded onto the sidewall but were in fact deviously sticky, one-off specials. We were inclined to let that go, but nonetheless, we ordered this year's

THE PLAYERS

	price as tested*	horsepower†
2002 Active Autowerke M3	$75,312	442
2004 Evotech Gallardo	$203,171	545
2004 Hennessey Venom Twin Turbo SRT-10	$162,054	800
2003 Hoppen/MTM RS 6	$124,030	575
2004 HPA Motorsports Stage II Twin Turbo R32	$81,840	450
2004 Kleemann 55K3	$164,338	630
2004 Lingenfelter 427 CTS-V	$93,480	510
2002 Lingenfelter 427 Twin Turbo Corvette	$149,187	800
2004 Mallett Cadillac CTS-V	$120,365	751
2004 Mosler MT900S	$215,775	560
2002 MTI Z07 Corvette	$108,275	625
2003 RENNtech CL55	$189,860	625
2004 RENNtech SL600	$174,001	640
2004 RSI SR Twin Turbo Viper SRT-10	$136,745	800
2004 Superformance Brock Coupe	$88,400	505
2003 Vishnu Mitsubishi Lancer Evolution	$56,874	475

*Calculated using 2004 new-car prices. †Manufacturer's claim.

EXPLANATION OF TEST RESULTS

We define a "run" as a complete cycle of our test course. So a run begins when the car leaves the starting line, and it ends when the car comes to a stop. Each car does five runs, and from each run we also determine several other performance measures—quarter-mile acceleration, braking distance from 150 to 0 mph, time on the road-course section, etc. To determine finishing order, we use a car's best run time, and the lowest time wins. In the graphic section, we've used that one quickest run and plotted the other data points for that particular run. We've also found that in some cases a car might have a quicker quarter-mile or road-course time, or whatever, *in a run that is slower than its quickest run.* So for each car, we've also listed the best quarter-mile acceleration time and speed, road-course time, and braking distance from 150 that the car performed in its five runs.

Check out the data for all the runs as well as detailed specifications at www.CARandDRIVER.com.

The cars start from a standstill at the entrance to pit lane. They accelerate full throttle down the length of pit lane, past the 1320-foot, quarter-mile mark. At the 2100-foot mark, the course makes a hard left turn onto a 0.8-mile road course. Exiting the road course, drivers hang a left and drive onto the oval's Turn Three. In the middle of Turn Three, the cars go through a chicane that slows them down, then they accelerate through Turn Four and onto the front straight. When the car reaches 150 mph, the driver brakes to a standstill.

entrants to get their rubber from the Tire Rack, ensuring no cheater tires.

As in the past, the tuners could supply their own drivers or have *C/D* technical director Larry Webster drive. In the event a driver struck a cone, a five-second penalty was added to the score, and if the car was louder than 103 dBA (measured at the side of the track), it was slapped with a 10-second penalty.

Most significant, we divided the cars into two classes: Open and Sedan. A sedan is a car with a back-seat space of 36 or more cubic feet, and an open car works out to, well, anything else. So we have a winner for each class. In addition, we awarded a trophy to the car that posted the quickest time of the day, regardless of class, and called it the John Lingenfelter Memorial Trophy. Lingenfelter was an enthusiastic and determined participant (his cars won in 2001 and 2002) who died last December from injuries sustained in a racing accident. Lingenfelter Performance Engineering carries on, but we all missed John's energy and intensity at this year's event.

To make the challenge more interesting, we invited two of the same car. We were successful, winding up with a pair of Corvettes, Vipers, Cadillac CTS-Vs, and Mercedes-Benz SLs, eight of the 16 entrants. Unfortunately, despite our come-on teaser in the June issue, no one stepped forward with a Ferrari Enzo to demonstrate exactly why it is viewed in some circles as the greatest street car ever built.

Still, an impressive group of machinery showed up, and with a few exceptions, all of them ran extremely well. We hope you enjoy the show.

—Larry Webster

Vehicle type: front-engine, 4-wheel-drive, 5-passenger, 5-door coupe
Price as tested: $81,840 (base price: $79,530)
Engine type: twin-turbocharged and intercooled DOHC 24-valve V-6, iron block and aluminum head, port fuel injection
MODS engine/transmission: $41,140 **suspension:** $1935 **brakes:** $4320 **wheels/tires:** $2460 **body/interior:** $2310

Displacement	193 cu in, 3169cc
Power (mfr's claim)	450 bhp @ 5500 rpm
Torque (mfr's claim)	470 lb-ft @ 4200 rpm
Transmission	6-speed manual
Front brakes	Porsche 14.2 x 1.3-in vented, cross-drilled discs; Porsche 6-piston calipers
Rear brakes	Porsche 12.3 x 0.9-in vented, cross-drilled discs; stock 1-piston calipers
Brake pads	front: Porsche; rear: PBI Metal Master
Wheelbase	99.1 in
Length/width/height	164.4/68.3/56.1 in
Curb weight	3355 lb
Weight distribution, F/R	62.0/38.0%

*Base price includes all performance-enhancing options.

3RD PLACE (tie)

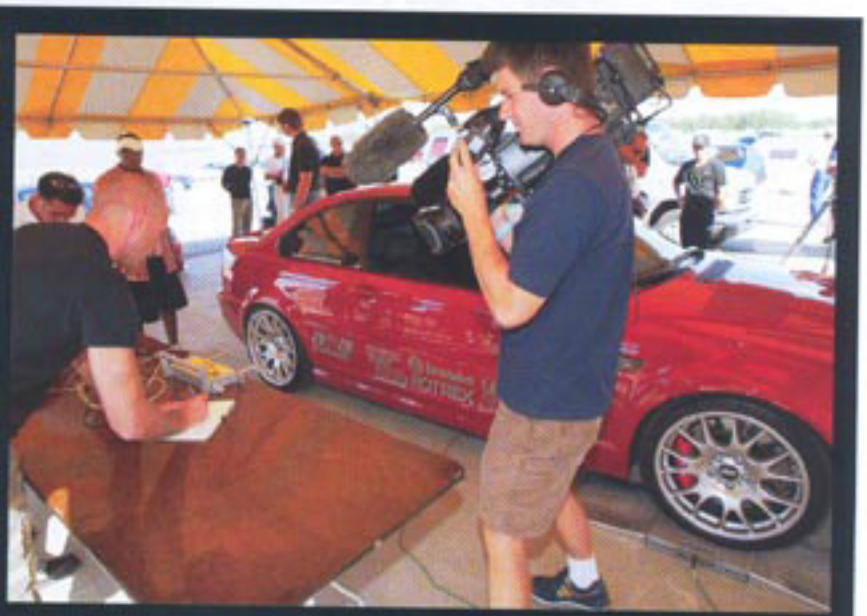
2004 HPA Motorsports Stage II Twin Turbo R32

Street drivability: ★★★★
1/4-mile: 11.7 sec @ 119 mph
Road course: 51.0 sec
150-to-0-mph braking: 742 feet
Total course time: 107.5 sec

The engine barked, the hammer dropped, four tires screeched in chorus, and the HPA R32 flew off like a square cannonball. The world's quickest lunchbox posted a 3.6-second 0-to-60 run and an 11.7-second quarter-mile at 119 mph, although the R32's best overall time—107.5 seconds—had slower acceleration legs. In this field of big-bore buffalo sedans, only the Vishnu Evo was quicker in the quarter-mile, a triumph for the pipsqueaks.

Crack the R32's hood to see what all the shouting is about. The 3.2-liter DOHC 24-valve VR6 V-6 is chewing on twin BorgWarner (formerly KKK) K04 turbos and exhaling 450 horsepower. This is no Pep Boys hack job; the turbines and the compressor wheels spin side by side in custom housings and manifolds developed by HGP Turbonachrüstung of Germany. Also bespoke is the silicon-wrapped plumbing to the stock Audi TT intercoolers. The forked turbo hoses are also molded in Deutschland on tubular jigs supplied by HPA. Engine twiddling amounts to race-spec rod bearings and a laser-cut spacer between the block and head. It drops the compression ratio to 8.0:1 to digest the 17.0 psi of peak boost.

Other than the bubblegum-blue hoses, this $41,140 powertrain upgrade to a $29,675 R32, which has 240 horsepower in stock trim, is clean enough to pass for a factory job. The HPA R32's fluff-'n'-buff includes a $3975 clutch pack, a $2675 reinforcing of the six-speed manual, a set of Porsche Cayenne Turbo front brakes ($4320 including labor), plus a few suspension tweaks to firm up the handling. Recaro Pole Position buckets add $1200. The R32's Haldex all-wheel-drive system is left stock, and the HPA putters through town much like a regular R32: supple, refined, a munchkin Mercedes. When the light turns, aim sharp and fire. Brakes for a 5700-pound Cayenne feel as if they'll stop the 3355-pound R32 between crosswalk lines. But it takes a lot of room—742 feet—to stop from 150 mph, owing to its narrower tires. Other than that, this super-cube has no shortcomings. —Aaron Robinson



Per our usual testing procedure, we topped off the fuel tank of each car before weighing it. We popped for the gas, and don't ask about fuel economy—we didn't measure it and doubt that anyone buying an 800-hp car cares about it.